



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

U/R

D119-796-031
Job Sheet 173957



Part No: D119-796-031

Job Qty: 1 ea

Part Name: AW119 Landing Gear Assembly - Standard OEM Protection, Float Compatible



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/8/18

Job Tracking No:

Due Date: 3/26/18

Created By: Linda Lacelle

Type: SOLD

Description:

Note: URF 17-783 DWG D119-796-031 REV A, IIN-D119-796 REV F IPP REV:A NEW ISSUE 15-05-12 VERIFIED
BY:DD IPP REV:B 15.08.25 AS PER ECN15-580 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Lead Time	Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier			
90	Start up Operation	1 Ea		3/24/18	0.00	0.00	Start Up Stores/Pkg-1			MAR 13 2018
100	Packaging	1 pcs		3/24/18	0.00	0.00	Packaging1-1			
110	HandFinish	1 pcs		3/26/18	0.00	7.44	HandFinish4			
120	QC	1 pcs		3/26/18	0.00	0.00	QC5			
125	Packaging	1 pcs		3/26/18	0.00	0.00	Packaging1-1			
127	QC	1 pcs		3/26/18	0.00	0.00	QC4			
130	Packaging	1 pcs		3/26/18	0.00	0.00	Packaging3-1			
140	QC21-FG	1 Ea		3/26/18	0.00	0.00	QC21			MAR 23 2018

Part Op 100 - Photocopy bluefile and create labels as per PPP D119-796-031 chg 003/ D119-646-043 paperwork
Descriptions: 110 - ASSEMBLE AS PER DWG AND NOTES 8,9,10,11 ASSEMBLE WITH PROSEAL BATCH: 9-8 2-INSTALL
DECAL D2729-4

130 - Identify and pack for shipping as per PPP D119-796-031 Location: _____ PPP Rev: _____

CHG003

★ SEE
Attached:
- Add D5449-1
- Kit now CHG004
4/10/18



Container No: S051002



Part: D119-796-031

Job No: 173957

Serial No/Batch: S051002

Revision:
Inspector:

Date: 03/13/18

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 (613) 632-5200
Email: sales@dartaero.com
www.dartaero.com

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
185x90x34crate	Agusta Crate-Actual size is 185 x 91 x 40	1 pcs (1 ea)	90-Start up Operation	
AN3C45A	Bolt	12 Ea (12 ea)	90-Start up Operation	
AN3C46A	Bolt	8 Ea (8 ea)	90-Start up Operation	
AN3C50A	Bolt	16 Ea (16 ea)	90-Start up Operation	
AN4C6A	Bolt	24 Ea (24 ea)	90-Start up Operation	
D119-646-043	AW119 Replacement Skidtube with Wearpads, Float Compatible - Fits LH or RH	2 Ea (2 ea)	90-Start up Operation	
D119-796-151	Fwd Crosstube Installation With Step (No Hardware)	1 Ea (1 ea)	90-Start up Operation	
D119-796-251	Aft Crosstube Installation With Step (No Hardware)	1 Ea (1 ea)	90-Start up Operation	
D2652	Bushing	48 Ea (48 ea)	90-Start up Operation	
D3407-041	Tow Ring	2 Ea (2 ea)	90-Start up Operation	
D3417-5	Washer	4 Ea (4 ea)	90-Start up Operation	
D3456-1	Washer	2 Ea (2 ea)	90-Start up Operation	
D3672-3	Washer, Phenolic	48 Ea (48 ea)	90-Start up Operation	
D3672-7	Washer, Phenolic	48 Ea (48 ea)	90-Start up Operation	
D3883-1	Saddle, Outboard LH	2 Ea (2 ea)	90-Start up Operation	
D3883-2	Saddle, Outside RH	2 Ea (2 ea)	90-Start up Operation	
D3884-1	Saddle, Inside LH	2 Ea (2 ea)	90-Start up Operation	
D3884-2	Saddle, Inside RH	2 Ea (2 ea)	90-Start up Operation	
D3886-041	Lug Assembly	4 Ea (4 ea)	90-Start up Operation	
MS21043-3	Nut	36 Ea (36 ea)	90-Start up Operation	
MS21043-4	Nut	26 Ea (26 ea)	90-Start up Operation	
MS21043-5	Nut	8 Ea (8 ea)	90-Start up Operation	
MS21250-05048	Bolt (Use Ms21250-05-048)	8 Ea (8 ea)	90-Start up Operation	
NAS1149C0332R	Washer	48 Ea (48 ea)	90-Start up Operation	
NAS1149C0432R	Washer	48 Ea (48 ea)	90-Start up Operation	
NAS1149C0532R	Washer	16 Ea (16 ea)	90-Start up Operation	
MS21920-28	Clamp	2 Ea (2 ea)	125-Packaging	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Container View (Active) - Master
Unit Containers

Tel (613) 632-5200

Master Unit No	Container No	Part No	Part Name	From Container	Current Location	Quantity
001564	S050059	AN3C45A	Bolt	fm138553	ST346	12
001564	S049696	AN3C46A	Bolt	S044599	PK001	8
001564	S049697	AN3C50A	Bolt	S044599	PK001	16
001564	S049698	AN4C6A	Bolt	S044599	PK001	24
001564	S049707	D2652	Bushing	S024435	PK001	48
001564	S049708	D3407-041	Tow Ring	S041383	PK001	2
001564	S049709	D3417-5	Washer	S020725	PK001	4
001564	S049710	D3456-1	Washer	S044599	PK001	2
001564	S049711	D3672-3	Washer, Phenolic	S044599	PK001	48
001564	S049712	D3672-7	Washer, Phenolic	S020723	PK001	48
001564	S049713	D3883-1	Saddle, Outboard LH	S026453	PK001	2
001564	S049714	D3883-2	Saddle, Outside RH	S026436	PK001	2
001564	S049715	D3884-1	Saddle, Inside LH	s025206-1	PK001	2
001564	S049716	D3886-041	Lug Assembly	S044599	PK001	4
001564	S049699	MS21043-3	Nut	S044599	PK001	24
001564	S049700	MS21043-4	Nut	S044599	PK001	26
001564	S049701	MS21043-5	Nut	S044599	PK001	8
001564	S049702	MS21250-05048	Bolt (Use Ms21250-05-048)	S044599	PK001	8
001564	S049703	MS21920-28	Clamp	S020717	PK001	2
001564	S049704	NAS1149C0332R	Washer	S020622	PK001	24
001564	S050038	NAS1149C0332R	Washer	S019380	ST266	24
001564	S049705	NAS1149C0432R	Washer	S044599	PK001	48
001564	S049706	NAS1149C0532R	Washer	S044599	PK001	16

Note: Ad hoc query view of Part.dbo.Container where Container.Active = 1.

Plex 3/12/18 10:10 AM dart.quirion.sonia

D3884-2



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

Container View (Active) - Master
Unit Containers

Master Unit No	Container No	Part No	Part Name	From Container	Current Location	Quantity
001564	S050059	AN3C45A	Bolt	fm138553	Start Up Stores/Pkg-1	12
001564	S049696	AN3C46A	Bolt	S044599	Start Up Stores/Pkg-1	8
001564	S049697	AN3C50A	Bolt	S044599	Start Up Stores/Pkg-1	16
001564	S049698	AN4C6A	Bolt	S044599	Start Up Stores/Pkg-1	24
001564	S049707	D2652	Bushing	S024435	Start Up Stores/Pkg-1	48
001564	S049708	D3407-041	Tow Ring	S041383	Start Up Stores/Pkg-1	2
001564	S049709	D3417-5	Washer	S020725	Start Up Stores/Pkg-1	4
001564	S049710	D3456-1	Washer	S044599	Start Up Stores/Pkg-1	2
001564	S049711	D3672-3	Washer, Phenolic	S044599	Start Up Stores/Pkg-1	48
001564	S049712	D3672-7	Washer, Phenolic	S020723	Start Up Stores/Pkg-1	48
001564	S049713	D3883-1	Saddle, Outboard LH	S026453	Start Up Stores/Pkg-1	2
001564	S049714	D3883-2	Saddle, Outside RH	S026436	Start Up Stores/Pkg-1	2
001564	S049715	D3884-1	Saddle, Inside LH	s025206-1	Start Up Stores/Pkg-1	2
001564	S051001	D3884-2	Saddle, Inside RH	S047756	ST404	2
001564	S049716	D3886-041	Lug Assembly	S044599	Start Up Stores/Pkg-1	4
001564	S049699	MS21043-3	Nut	S044599	Start Up Stores/Pkg-1	24
001564	S049700	MS21043-4	Nut	S044599	Start Up Stores/Pkg-1	26
001564	S049701	MS21043-5	Nut	S044599	Start Up Stores/Pkg-1	8
001564	S049702	MS21250-05048	Bolt (Use Ms21250-05-048)	S044599	Start Up Stores/Pkg-1	8
001564	S049703	MS21920-28	Clamp	S020717	Start Up Stores/Pkg-1	2
001564	S049704	NAS1149C0332R	Washer	S020622	Start Up Stores/Pkg-1	24
001564	S050038	NAS1149C0332R	Washer	S019380	Start Up Stores/Pkg-1	24
001564	S049706	NAS1149C0532R	Washer	S044599	Start Up Stores/Pkg-1	16

Note: Ad hoc query view of Part.dbo.Container where Container.Active = 1.

Plex 3/13/18 4:09 PM dart.quirion.sonia

md 18 Jun 2019

DOA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only



Work Order: 173957		AGAINST DEPARTMENT/PROCESS	
Part No. A119-796-021	Skid-tube	Cross tube	Water Jet
NCR No. 19-7173	Machining	Small Fab	Prod. Eng. Coord.
Date: 18/3/22	Thermoforming	Finishing	Rec/Store/Packaging
Step #: _____	Large Fab	Composite	Supplier
DISPOSITION		Engineering ☒ Quality ☐ Other ☐	
Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		MRB (QSI042) Approval	
Description Work Order Deviation		DAS 12 18/3/22 9:39	
Landing gear assembly requires DS449-1 Float Saddle Washers.		Completed By 18/03/22	
Ref: NCR 17-6698.		Lead hand / Supervisor Approval Verification 18/03/23	
		QC / QA Coordinator Approval 18/3/23	
QTY Effective: 1 Disposition			
Install qty (4) DS449-1 Float SADDLE WASHERS PER DS 9756 Rev.A			
KIT IS NOW CHG 004			
FAULT CATEGORY			
Root Cause		Positioned Wrong	
Environment	No Re-verification	Outside Dimensions	
Design	Operator	Over/Under tolerance	
Doc/Data	Offset/Setup	Part Incorrect	
Equip/Tooling	Supplier	Part Lost/Missing	
Handling/Pre	Training	Part Moved	
Material	Use for Testing	Drawing	
Internal Transport	Poor Information	Finish	
Tribal Knowledge	Rushing	Misread	
LOA	Product Improvement	Turning Sequence	
Substation	Process Improvement		
Past Expiry Date	Manufacturing Process		
Misidentified	Past Due		
OTHER:			

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-796 REV. E OR EARLIER AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-796 REV. 3 OR EARLIER

REF. TCCA STC: SH14-45
REF. FAA STC: SR03504NY
REF. EASA STC: 10052022
REF. DGCA INDIA LOA: 07-09/2011-AED
REF. BRASIL STC: 2015S07-16
REF. PHILIPPINES LOA: C-16-0221
REF. CHINA VSTC: VSTC0757
REF. RUSSIA TC: CT316-A119

1.0 PURPOSE

It has come to DART Aerospace's attention that in an emergency water landing, the threads on the Thru Bolts that fasten the Skidtube Saddles to the DART Crosstubes may prove to be a hazard when deploying the Float System and may puncture the Float Bags.

The purpose of this DART Service Instruction is to provide instructions to replace the NAS1149C0532R & D3672-7 Washers on the inboard face of Skidtube Saddles with the D5449-1 Float Saddle Washer. The D5449-1 Float Saddle Washer is designed to protect the Float Bags from the threaded portion of the Thru Bolts.

2.0 CHANGE

2.1 Refer to section 3.1 of IIN-D119-796 Rev. E and earlier; rename Figures 3.1 and 3.2 to Figure 3.1a and 3.2a respectively. Insert Figure 3.1b and 3.2b from this service instruction.

2.2 Refer to section 3.1 of IIN-D119-796 Rev. E and earlier and modify as follows:

IS: 3.1.1 For installation on Dart D119-646-XXX Skidtubes, loosely install (qty 2) MS21250-05048 Bolts, (qty 4) NAS1149C0532R Washers, (qty 4) D3672-7 Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.1a.

Customers installing Emergency Float Kits are required to procure the D119-796-015 Float Protection Kit. For customers installing Emergency Floats, substitute the inboard NAS1149C0532R & D3672-7 Washers with the D5449-1 Float Saddle Washer as shown in Figure 3.1b.

3.1.2 For installation with OEM skidtubes/saddles loosely install (qty 2) AN5C32A Bolts, (qty 6) AN5C7A Bolts, (qty 10) NAS1149C0563R Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.2a.

Customers installing Emergency Float Kits are required to procure the D119-796-015 Float Protection Kit. For customers installing Emergency Floats, substitute the inboard NAS1149C0563R Washers with the D5449-1 Float Saddle Washer as shown in Figure 3.2b.

WAS: 3.1.1 For installation on Dart D119-646-XXX Skidtubes, loosely install (qty 2) MS21250-05048 Bolts, (qty 4) NAS1149C0532R Washers, (qty 4) D3672-7 Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.1.

3.1.2 For installation with OEM skidtubes/saddles loosely install (qty 2) AN5C32A Bolts, (qty 6) AN5C7A Bolts, (qty 10) NAS1149C0563R Washers and (qty 2) MS21043-5 Nuts per saddle as shown in Figure 3.2.

Continues on Sheet 2

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 16.07.25
CERT. NO.: SH14-45
ISSUE NO.: 1

APPROVED

A	NEW ISSUE (SEE PAR16-538)	AJS	16.07.25
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JH		
CHECKED	NO	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9756	SHEET 1 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	FLOAT PROTECTION KIT	NTS
DATE	16.07.25	COPYRIGHT © 2016 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

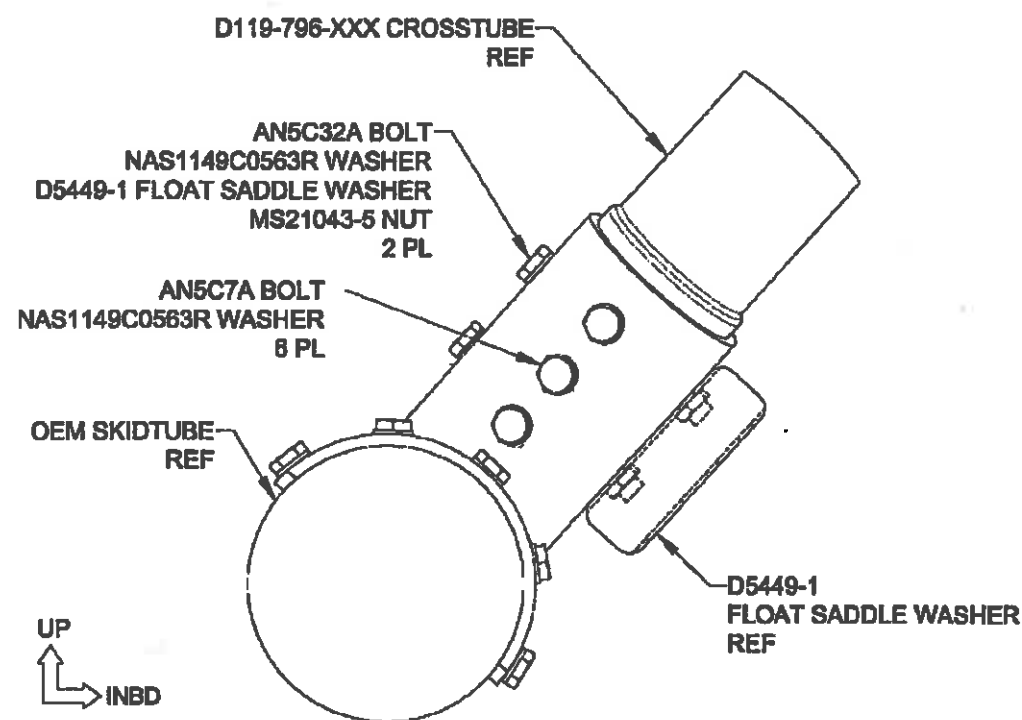


Figure 3.2b/32.5b Installation of D119-796-XXX Crosstube to OEM Skidtubes
(For Installation With Emergency Float Kits)

3.0 PARTS LIST

Qty -015	Part Number	Description
X	D119-796-015	FLOAT PROTECTION KIT
4	D5449-1	FLOAT SADDLE WASHER

4.0 WEIGHT AND BALANCE

There is a negligible weight and balance change associated with this modification.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 16.07.25
CERT. NO.: SH14-45
ISSUE NO.: 1

APPROVED

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	JH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	NO	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9756	SHEET 3 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	FLOAT PROTECTION KIT	NTS
DATE	16.07.25	COPYRIGHT © 2016 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Change Record

PAGE 1 OF 1

Part Number: D119-796-031

Description: FLOAT COMPATIBLE LANDING GEAR ASSEMBLY w/ STD WEARPAD PROTECTION[illegible]